

## APPENDIX 16-A

# SCHEDULES

The event-based schedule, sometimes referred to as the Systems Engineering Master Schedule (SEMS) or Integrated Master Schedule (IMS) is a technical event-driven (not time-driven) plan primarily concerned with product and process development. It forms the basis for schedule control and progress measurement, and relates engineering management events and accomplishments to the WBS. These events are identified either in the format of entry and exit events (e.g. initiate PDR, complete PDR) or by using entry and exit criteria for each event. Example exit criteria shown in Figures 16-1 and 16-2.

The program office develops an event-based schedule that represents the overall development effort. This schedule is usually high-level and focused on the completion of events that support the acquisition milestone decision process. An event-based schedule is developed by the contractor to include significant accomplishments that must be completed in order to meet the progress required prior to contract established events. The contractor also includes events, accomplishments, and associated success criteria specifically identified by the contract. DoD program offices can use the contractor's event-based schedule and the

<b>System Requirements Review (SRR)</b>	<b>System Functional Review/Software Spec Review(SFR/SSR)</b>	<b>Preliminary Design Review (PDR)</b>
<ul style="list-style-type: none"> <li>• Mission Analysis completed</li> <li>• Support Strategy defined</li> <li>• System options decisions completed</li> <li>• Design usage defined</li> <li>• Operational performance requirement defined</li> <li>• Manpower sensitivities completed</li> <li>• Operational architecture available and reviewed</li> </ul>	<ul style="list-style-type: none"> <li>• Installed environments defined</li> <li>• Maintenance concept defined</li> <li>• Preliminary design criteria established</li> <li>• Preliminary design margins established</li> <li>• Interfaces defined/preliminary interface specs completed</li> <li>• Software and software support requirements completed</li> <li>• Baseline support/resources requirements defined</li> <li>• Support equipment capability defined</li> <li>• Technical architecture prepared</li> <li>• System defined and requirements shown to be achievable</li> </ul>	<ul style="list-style-type: none"> <li>• Design analyses/definition completed</li> <li>• Material/parts characterization completed</li> <li>• Design maintainability analysis completed/support requirements defined</li> <li>• Preliminary production plan completed</li> <li>• Make/buy decisions finalized</li> <li>• Breadboard investigations completed</li> <li>• Coupon testing completed</li> <li>• Design margins completed</li> <li>• Preliminary FMECA completed</li> <li>• Software functions and architecture and support defined</li> <li>• Maintenance tasks trade studies completed</li> <li>• Support equipment development specs completed</li> </ul>

**Figure 16-1. Sample Event-Based Schedule Exit Criteria**

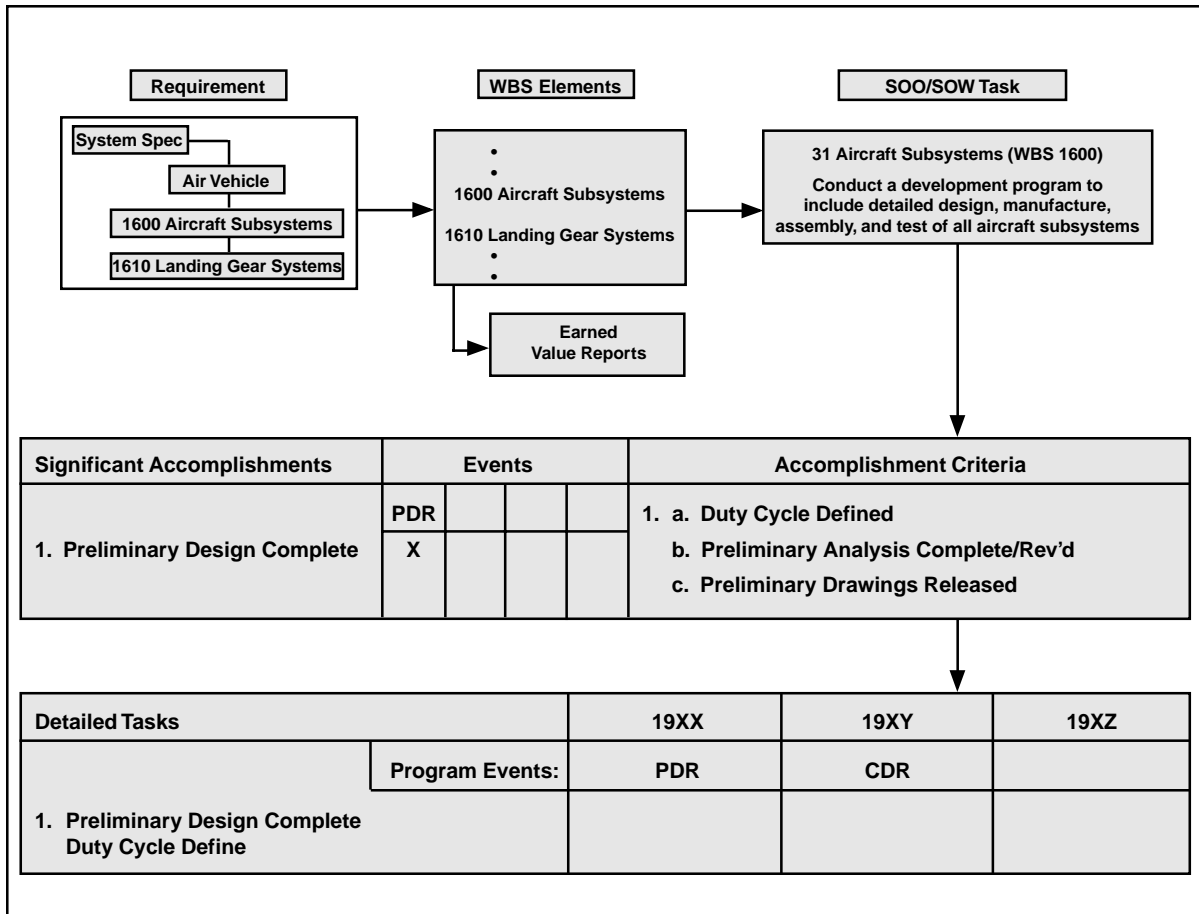
<b>Critical Design Review Test Readiness Review (CDR/TRR)</b>	<b>System Verification Review/ Functional Configuration Audit (SVR/FCA)</b>	<b>Physical Configuration Audit (PCA)</b>
<ul style="list-style-type: none"> <li>• Parts, materials, processes selected</li> <li>• Development tests completed</li> <li>• Inspection points/criteria completed</li> <li>• Component level FMECA completed</li> <li>• Repair level analysis completed</li> <li>• Facility requirements defined</li> <li>• Software test descriptions completed</li> <li>• Hardware and software hazard analysis completed</li> <li>• Firmware spt completed</li> <li>• Software programmers manual completed</li> <li>• Durability test completed</li> <li>• Maintainability analyses completed</li> <li>• Qualification test procedures approved</li> <li>• Producibility analyses completed</li> </ul>	<ul style="list-style-type: none"> <li>• All verification tasks completed</li> <li>• Durability tests completed</li> <li>• Long lead time items identified</li> <li>• PME and operational training completed</li> <li>• Tech manuals completed</li> <li>• Flight test plan approved</li> <li>• Support and training equipment developed</li> <li>• Fielding analysis completed</li> <li>• Provisioning data verified</li> </ul>	<ul style="list-style-type: none"> <li>• Qualification testing completed</li> <li>• All QA provisions finalized</li> <li>• All manufacturing process requirements and documentation finalized</li> <li>• Product fabrication specifications finalized</li> <li>• Support and training equipment qualification completed</li> <li>• All acceptance test requirements completed</li> <li>• Life management plan completed</li> <li>• System support capability demonstrated</li> <li>• Post production support analysis completed</li> <li>• Final software description document and all user manuals complete</li> </ul>

**Figure 16-2. Sample Event-Driven Schedule Exit Criteria (continued)**

contractor's conformance to it for several purposes: source selection, monitoring contractor progress, technical and other reviews, readiness for option award, incentives/awards determination, progress payments decision, and similar activities.

The event-based schedule establishes the key parameters for determining the progress of a development program. To some extent it controls and interfaces with systems engineering management planning, integrated master schedules and integrated master plans, as well as risk management planning, system test planning, and other key plans which govern the details of program management.

The calendar or detail schedule is a time-based schedule that shows how work efforts will support tasks and events identified in the event-based schedule. It aligns the tasks and calendar dates to show when each significant accomplishment must be achieved. It is a key component for developing Earned Value metrics. The calendar schedule is commonly referred to as the detail schedule, systems engineering detail schedule, or SEDS. The contractor is usually required to maintain the relationship between the event and calendar schedules for contract required activities. Figure 16-3 shows the relationship between the system requirements, the WBS, the contractual requirements, the event-based schedule, and the detail schedule.



**Figure 16-3. Event-Based—Detailed Schedule Interrelationships**

### Schedule Summary

The event-based schedule establishes the key tasks and results expected. The event-based schedule establishes the basis for a valid calendar-based (detail) schedule.